I am aware of the FCC's efforts to explore permitting unlicensed, unregulated operation of Broadband on Power Lines (BPL).

The implementation of this technique is fraught with technical, legal and security issues and I strongly oppose it.

1. Technical

Medium-voltage power lines, while reasonably efficient in transmitting 60-Hertz power are a very poor medium for transmitting and receiving broadband signals in the high-frequency (1.7-30 MHz) region. They leak interference and are themselves subject to interference.

a. Wide-spaced power lines are very poor transmission lines for HF signals. They leak. The leakage is uncontrollable. Non-linearities in connections over yeaqrs of service can cause the generation of harmonics and intermodulation products that also leak. These leakages will interfere with a variety of licensed services operating in the BPL spectrum and its harmonics.

b. For the same reason that leakage will cause interference with licensed services, the same licensed services will cause uncontrolled interference to the devices installed on power systems to receive BPL.

2. Legal.
Licensed services, operating in the HF region, are one party to a contract with the Federal Government. Licensees agree to abide by the terms of the contract and in return are given implicit assurance that the Federal Government will provide protection to the parts of the spectrum they occupy. The FCC operates and maintains a Compliance Division which is charged with the responsibility of protecting licensed users of the spectrum from unlicensed and otherwise illegal uses of the protected spectrum. How is FCC going to continue insisting on compliance with terms of licenses when the Commission itself contemplates violating those very terms?
While Part 15 of the regulations permits manufacturers to certificate equipment that radiates in protected parts of the spectrum, it also requires manufacturers to accept interference from licensed services.
How can the Commission expect manufacturers to produce equipment

under those terms when it is certain that the equipment will be subject
to complete paralysis from legal interfering signals?

3. Security

BPL on medium-voltage, widely-spaced lines is subject to intentional denial of service and spoofing attacks simply because the physics of the situation permit it. A transmitter located in close proximity to the lines can be made to compete with, overcome and compromise in various ways, the legitimate signals carried.

The information carried by BPL on medium-voltage widely-spaced power lines is subject to very simple, widespread and uncontrolled compromise.
To breach a BPL system requires only a
receiver located within the fields generated by the power lines. Such
breaches seriously compromise security of the signals themselves and the
entities using such a system...a serious liability on the part of FCC.

If BPL were to be used even in a limited application such as control of the power grid itself, it lays the entire grid open to hostile attack.

I vehemently oppose the implementation of BPL on medium-voltage power lines.

Save the taxpayers a lot of money and put a halt to
BPL now.

Sincerely,
Donald J. Toman